BDG 102x

BDG 1020, BDG 1024 range of badges

User Manual

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Safety instructions

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PREFACE

Purpose of this manual

This manual presents the BALOGH series BDG 102x badges.
It also indicates how to install and use them.

Reference of the manual

The manual's generic reference is:

UM-<name of equipment> -II-L

in which:

UM denotes User Manual
II is the version number.
L is the language in which the manual is written

Update

Version no.	Date	Description of modifications
1.0	21/07/2010	Creation
1.1	20/12/2011	Add § + photos

Note

The contents of this manual are subject to changes without notice.
BALOGH cannot be held responsible for the consequences of any error, omission, or incorrect interpretation of the information provided.

MEANING OF THE SYMBOLS

The symbols used in this manual have the following meaning:

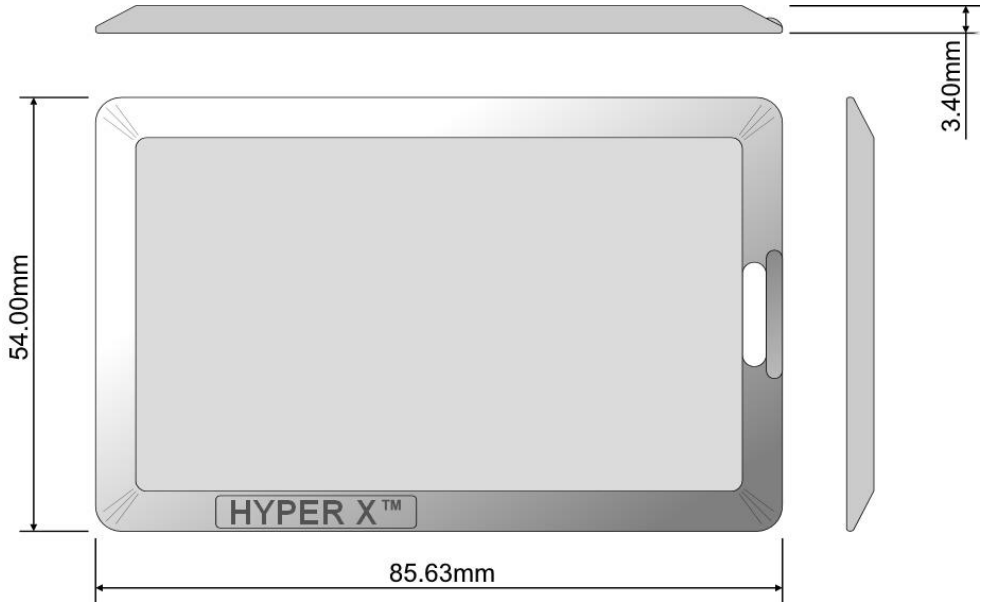
Warning :
Warning information for correct product operation. Ignoring this information can cause device damages or destruction.

Important
Important information for correct handling of the product. Ignoring this information can cause device malfunction.

Remark
Recommendations or useful information. This information will help you to best use the device and its functions.

1 EQUIPMENT DESCRIPTION

Hyper X™ badge type BDG 102x is a semi-passive (battery assisted passive) RFID badge operating at 2.45GHz. All Hyper X™ badges can be read by all HyperX™ reader's models.
The badge is composed of a rigid plastic credit card sized case containing the electronics and sealed by a polyester film.



Technical specifications**:

Dimensions:	85.6 x 54.0 x 3.4mm
Weight	15 g
Color	Light Grey RAL7035
Operating temperature range	- 20°C to +70°C
Storage temperature range	- 25°C to +80°C
Protection level	IP 54
Casing material	ABS-PC
Coverlay material	PC
Service lifetime* (Normal/Fast)	7 years* / 5 years*
Frequency	2,45 GHz
Data rate	30000 bit/s
Error protection	HDLC
Modulation type	BPSK
Error rate / No read rate	1E-7/1E-4*
Multi-identification (Normal mode)	> 5 badges /s
Dynamic identification (Fast mode)	> 100 km / h
Memory capacity	3+27 characters

(*)Normal conditions of use
(**)Specifications do not form part of any contract and may be changed without notice

2 INSTRUCTION OF USE

Badge must be encoded prior to use.
Once encoded, electrical connection is not required for product use.

Before using a badge, verify it is not damaged.
(Do not use a badge if it has been damaged).

Use the badge only for its intended purpose.
Any product modification will immediately render the product warranty void.

Misuse of the badge could result in injury or damage to the badge or other property.
Regularly check that no external part of the product is damaged, if it is, immediately proceed with product replacement.

- **Product cleaning:**

Keep the badge clean.
Do not use chemicals, cleaning solvents or detergents to clean the badge.
Simply wipe it with a soft cloth slightly dampened in a mild soap-and-water solution.

- **Product storage :**

Avoid water and wet locations.
Precipitation, humidity and liquids contain minerals that can corrode electronic circuit boards
Take care not to spill any food or liquid on the badge. In case the badge gets wet, clean it and allow it to dry thoroughly before using it again. Do not attempt to dry badge with an external heat source, such as a microwave oven or hair dryer. Damages caused by contact with liquid are not covered by warranty.

Do not use or store the badge for long periods of time in dusty, dirty areas that may cause damage to components.

Do not store the badge in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.

Do not store the badge in cold areas. When temperature warms up quickly, moisture can form inside the badge that may damage the electronic circuit boards.

3 PRODUCT INSTALLATION

For correct operation the badge must be “visible” from the reader position.

Metal surfaces or persons coming between badges and the reading antennas create shadow zones in the identification area.
The proximity of badge and a metal or magnetic surface or a person (<5mm) reduces the reading distance.

- **Using badge in automatic vehicle identification**

It is recommended to always place the badge behind the vehicle windscreen with a clip or a support.

Some car models have windscreens or tinted film on windscreens that contain a metal coating. The metal coating reduces the effect of heat radiation from the sun. Unfortunately this also prevents the RF signal from the reader passing through the windscreen, so preventing the badge from being read.
Generally cars with such a metallic coating have a small free space where the glass has no metallic coating. This free space is normally located behind the rear mirror. On some vehicles the free space is located in the lower corners of the windscreen.

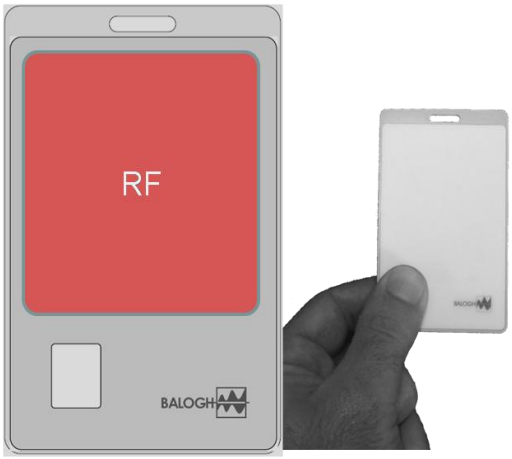
- **Manual presentation of the badge**

Badges BDG 102x are sensitive to direct contact with human body due to water.

An incorrect presentation of the product could prevent the RF signal from the reader passing through, preventing the badge from being read.

When a manual presentation is made, as a general rule, it is recommended that the badge is held between the thumb and index finger. Thumb is to be positioned on the programming electrical contacts or the "chip".

This enables keeping the fingers outside the RF part of the badge, necessary for proper operation of the product.



- **Using badge in automatic pedestrian identification**

Badges BDG 102x are sensitive to a direct contact with any metallic object as with human body due to water.
Unfortunately these elements may also prevent the RF signal from the reader passing through, preventing the badge from being read.

For identification of pedestrians, it is recommended to place the badge inside a holder (i.e. ETP 8032) and clip it to the chest level or to wear the badge around the neck with a lace.

This will insure a minimum distance between the badge and the human body of about 5mm for correct product operation.

4 SAFETY INSTRUCTIONS

WARNING:
Never attempt to disassemble, open, bend, puncture, cut or crush the badge, nor attempt to insert any foreign object.
Partial or total deterioration may result in injuries or damages to other property.

- **Exposure to Radio Frequency (RF) Signals:**

The HyperX™ badge does not emit any RF signal. It uses passive mode communication.
The Badge is a signal reflector. A Badge when receiving the RF signal from a reader will echo this signal, modulated by its individual identification code, back to the reader.

- **RF interferences :**

RF emission from some electronic equipment may disturb the operational mode of the badge and cause malfunction.
Badge is a high technology design and development.
It is autonomous, has onboard electronics with an integrated memory.
It has been designed to respond to very weak signal levels.
Correct use and storage of the product is necessary for the duration of product life.

Some commonly used devices can generate high electromagnetic interference and could result in injury or damage to certain electronic components of the product: welding machines, microwave ovens, speaker electromagnet, all types of GSM phones, Wi-Fi box (internet box), or in general any "wireless" devices, etc.

It is recommended to avoid direct contact or immediate vicinity of the badge (< 10cm) with the above mentioned devices or any device generating high electromagnetic fields.

- **Battery, cell information :**

The badge is powered up by an onboard lithium coin cell. It is not replaceable, it is not rechargeable.
Never attempt to replace or recharge the internal cell.
In case of battery leakage, avoid all contact with skin and eyes. In the event of contact with skin or eyes rinse heavily with running water and seek immediate medical advice.
Never throw this product in to a fire.

- **Recycling :**

Do not throw this product in waste bins.
Electric, electronic devices, batteries and cells must be recycled.
Take it to the nearest e-waste recycling or collection center.

- **Repairing or modifying :**

The badge is sealed and cannot be repaired.
Never attempt to disassemble, open, or modify a badge.
Dismantling can result in injury or damage to the badge and render the product warranty void.
Do not drop, knock or shake the badge. Rough handling can result in breaking the internal circuit board.
If the badge is damaged, opened, punctured, bent, cut or crushed do not use it, proceed with product replacement.
Do not paint the badge. Paint can prevent correct operation and result in damages to the product.
To ensure correct operation, do not place metallic sticker on to the badge..

- **Children :**

The badge and its accessories are not toys and contain small parts.
Keep the badge and all its accessories out of children’s reach.